

REMARKS/ARGUMENTS

This Amendment is in response to the Office Action mailed May 16, 2006. Claims 1-12 were pending in the present application. Claims 1, 2, 7, and 12 have been amended. No claims have been canceled. Claims 13-16 have been added. Accordingly, claims 1-16 remain pending in the present application after entry of this Amendment. Reconsideration of the rejected claims is respectfully requested.

35 U.S.C. § 102(e) Rejections of Claims 1-12

Claims 1-12 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,795,445 to Kabie et al. (hereinafter "Kabie"). Claims 1, 2, 7, and 12 have been amended to clarify the distinctions between the claimed embodiments and Kabie. In addition, claims 2, 7, and 12 have been amended to correct minor informalities not related to patentability.

Embodiments of the present invention provide scalable techniques for maintaining a quality of service ("QoS") path through networks. As shown in Fig. 1 of the specification as filed, an illustrative embodiment includes gateway elements 14, a trunk management system ("TMS") 32, a network management system ("NMS") 30, and a core network 16. Core network 16 consists of a number of edge nodes 20, relay nodes 24, and data links (a, b, c, d, e, f) that couple the edge and relay nodes. During an initialization period of the present embodiment, NMS 30 provisions a certain amount of a communication resource (*e.g.*, bandwidth) to each link (a, b, c, d, e, f) in core network 16. NMS 30 also establishes various one-way "routes" between gateway elements 14 using the links. For example, one route between source (*i.e.*, sending) gateway element GB and destination (*i.e.*, receiving) gateway element GD may include the links EB-C2 (e), C2-C1 (c), and C1-ED (b).

In various embodiments, each gateway element stores information about the routes originating from that gateway in a gateway route table (*e.g.*, Figs. 6A and 6B). Each gateway element also stores a listing of the provisioned resources for each link in the routes, and the portions of those resources that are currently used and currently available in a gateway trunk status table (*e.g.*, Fig. 10A). When a request for a data transfer is received at a gateway, the gateway route table is consulted to determine whether a valid route to the desired receiving gateway exists. If a route does exist, the gateway trunk status table is consulted to determine

whether there are sufficient available resources at each link along the route to enable transfer of the requested data. In this manner, a minimum quality of service for each data transfer may be achieved.

In accordance with the above, amended claim 1 recites:

A data network for communicating data between a sender unit and a receiver unit, comprising:
a core network including relay elements intercoupled by data links;
a gateway element coupled to the core network and to the sender unit, the receiver unit being coupled to the core network, the gateway element having at least one information table identifying at least one route from the gateway element through the core network to the receiver unit, including data links which constitute the at least one route, allocations of predetermined communication resources of the data links, and status information indicative of an amount of currently used communication resources of the data links and an amount of currently available communication resources of the data links. (Emphasis added)

The above recited features are not shown or disclosed by Kabie. Kabie is directed to a particular model for managing bandwidth in a multiservice network. As best understood, Kabie describes partitioning bandwidth in a network among "transport pools." Each transport pool is associated to a "tunnel" (e.g., route through the network) and one or more QoS applications (e.g., EF (Expedited Forwarding), AF1 and AF2 (Assured Forwarding), BE (Best Effort)), thereby allowing bandwidth to be managed among multiple routes and multiple QoS applications.

However, Kabie makes absolutely no reference to information about an amount of currently used communication resources and an amount of currently available communication resources for a network data link. As a result, Kabie fails to disclose "[a] gateway element having at least one information table...including... status information indicative of an amount of currently used communication resources of the data links and an amount of currently available communication resources of the data links," as recited in claim 1.

For at least the foregoing reasons, claim 1 is asserted to be allowable and the rejection should be withdrawn.

Independent claims 2, 7, and 12 recite limitations that are substantially similar to claim 1. For example, claims 2 and 12 recite "status information indicative of a currently used amount of the allocated communication resources and a currently available amount of the allocated communication resources." Claims 7 recites "status information indicative of currently used data communication capacity of the certain links and currently available data

communication capacity of the certain links." Thus, claims 2, 7, and 12 are allowable for substantially the same reasons as claim 1.

Claims 2, 7, and 12 also recite further limitations that are not disclosed by Kabie. For example, claims 2 and 12 recite "checking the status information to grant the request if the currently available amount of the allocated communication resources of the communicative route is equal or greater than the requested communication resource." Claim 7 recites "granting the request if the currently available data communication capacity of the certain data links is at least equal to or greater than the requested capacity." In other words, the claimed embodiments determine whether to grant a data transfer request based on the currently available (*i.e.*, unused) communications resources along a route. Kabie fails to teach or disclose this concept. Thus, claims 2, 7, and 12 are distinguishable over Kabie for at least these additional reasons.

Claims 3-6 depend from claim 2 and are thus allowable for substantially the same reasons as claim 2, as well as for the additional limitations they recite.

Claims 8-11, 15, and 16 depend from claim 7 and are thus allowable for substantially the same reasons as claim 7, as well as for the additional limitations they recite.

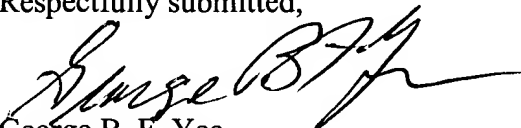
Claims 13 and 14 depend from claim 12 and are thus allowable for substantially the same reasons as claim 12, as well as for the additional limitations they recite.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,


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EXHIBIT A

Prosecution Docket Report

For: Hitachi, Ltd.

Country: For US Matters

Start Date: 8/1/2006

End Date: 11/30/2006

Date Type: Both Due and Reminder Dates

Date Client/Matter (Pat/TM) {Client Reference No}	Action/Events Notes	Title/Mark Client	App - Reg No Filing - Issue Date	Country Status	Bill - Resp Party Other Attys
Due Date: 08/01/2006 16869B-126510US (Pat) {HAL-ID 346}	IDS (Inf.Discl.Stmt.) deadline	Method for Managing Volume Groups Considering Storage Tiers Hitachi, Ltd.	11/415592 5/1/2006	US Granted	RCC - R1H GBY
Due Date: 08/03/2006 16869B-0115500US (Pat) {HAL 328}	Target Filing Date - 12 mo. Reminder original target filing date 8-3-05	Data Discovery and Location Management Hitachi, Ltd.		US Not yet filed	GBY - RCC
Due Date: 08/12/2006 16869B-063900US (Pat) {HAL-ID 238}	Response Interview Summary 07/12/06 (received 07/17/06)	Method and Apparatus for Data Integration Hitachi, Ltd.	10/660278 9/10/2003	US Granted	RCC - GBY GBY
Due Date: 09/04/2006 16869B-098300US (Pat) {HAL-ID 289}	Response Interview Summary 08/04/06 (received 08/11/06)	Distributed Data Management System Hitachi, Ltd.	10/806998 3/22/2004	US Pending - Published	RCC - SAR SAR
Due Date: 09/19/2006 16869B-089600US (Pat) {HAL 284}	Response Petition DISMISSED 07/19/06 (received 07/26/06)	Method and Apparatus for Limiting Access to a Storage System Hitachi, Ltd.	10/759581 1/16/2004	US Pending - Published	RCC - GBY GBY
Due Date: 09/28/2006 16869B-149700US (Pat) {HAL-ID 366}	Check PAIR for 1st OA	Management of Encrypted Storage Networks Hitachi, Ltd.	11/239549 9/28/2005	US Pending	RCC - R1H
Due Date: 09/29/2006 16869B-098410US (Pat) {HAL300CON1}	IDS (Inf.Discl.Stmt.) deadline	Method and Apparatus for Multistage Volume Locking Hitachi, Ltd.	11/479454 6/29/2006	US Pending - Published	RCC - R1H
Due Date: 11/02/2006 16869B-098210US (Pat) {HAL-ID 288}	IDS (Inf.Discl.Stmt.) deadline	Long Term Data Protection System and Method Hitachi, Ltd.	11/498449 8/2/2006	US Granted	RCC - CRF GBY
Due Date: 11/24/2006 16869B-080610US (Pat) {HAL268con1}	IDS (Inf.Discl.Stmt.) deadline	Point In Time Remote Copy for Multiple Sites Hitachi, Ltd.	11/510382 8/24/2006	US Pending - Published	RCC - R1H GBY

Date Client/Matter (Pat/TM) {Client Reference No}	Action/Events Notes	Title/Mark Client	App - Reg No Filing - Issue Date	Country Status	Bill - Resp Party Other Attys
Due Date: 11/29/2006 16869B-113110US (Pat) {HAL 322con1}	IDS (Inf.Discl.Stmt.) deadline	Method for Data Protection In Disk Array Systems Hitachi, Ltd.	11/512664 8/29/2006	US Pending - Published	RCC - RIH GBY